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**XXXVII. A Letter from Father d’Incarville,
of the Society of Jesus, at Peking in China,
to the late Cromwell Mortimer, M. D.
R. S. Secr.**

SIR,

Pekin, Nov. 15, 1751.

Read June 7, 1753. I SHOULD be glad to have it in my power to do more for your illustrious Society, both as to my situation and condition. We are very much confin’d at Peking ; we have not even the liberty of going where we please by ourselves to see things ; nor can we, with prudence, believe the reports of the Chineſe, who make nothing of deceiving us, if they can defraud us of our money. When we can do no otherwise, we endeavour to prevent our becoming their dupes, as well as we can : and yet, notwithstanding all our precautions, we cannot answer for what intelligence we have this way, so well as for what we affirm to have seen ourselves. Every year I ſend to our gentlemen of the Academy at Paris what I can discover upon ſuch matters, as I know concern them ; which has given me the opportunities of ſending you ſeveral curious things in natural history.

You ought to have received laſt year ſome leaves and flowers of diſſerent trees, besides a good number of ſeeds. The leaves and flowers of the varnifh-tree, which I ſent, come from the province of Nan King. This tree is diſſerent from that I ſaw in the king’s garden at Paris. The latter is the ſame with what

what I saw at Macao ; which was brought from Mississippi into France.

We have not in Europe the tree, from whose fruit the Toeng yeou is drawn. It were to be wish'd they could raise it there. The Toeng yeou is an oil, or natural varnish, drawn by expression from the fruits, which I have sent you, of which they make a very great trade in China. It costs but very little, the pound weight being worth about 7 or 8 sols of our money. I heard say, that they sell it at Paris under the name of China varnish. It is excellent for preserving furniture, giving them a polish not inferior to our varnishes of Europe, which cost so much money. Perhaps they may make some attempts to use it in Europe ; but they will not succeed, because they know not how to prepare it. This oil is so common in China, that the greatest part of the people, in tolerable circumstances, rub over their timber with it, giving it what colour they please. It not only adorns their houses, but also preserves the wood. The columns, that support their houses, and those of the great room where the emperor's throne is, are varnish'd with no other than this oil.

The Kou chou is a tree, of the bark of which they make the best paper in China. The common paper of their books, which looks yellowish, is made of particular species of Bambou, of which they prepare the young shoots, as we prepare hemp. They whiten it, by boiling it in lime-water : in this manner they prepare the Kou chou. There is no filken paper in China ; all the different kinds of paper here are made either of bark, hemp, or of the straw of corn or rice. Sometimes they blend with this last the stalks

stalks of the *Typha* *. The paper made of hemp or straw serves only for wrapping up goods, or to make pasteboard; and that made of the bark of the cotton-plant serves for fans, being less apt to crack than any other white paper.

The white wax, produced by certain insects, is a very curious and profitable thing. I have not yet been able to see any of them. What has been told me by one of our missionaries, who has bred them himself, is not sufficient to give a proper idea of them. As to the manner of their depositing this wax, it appears to me, that there is some analogy between it, and the manner of the gum lac's being deposited by certain ants †.

In the emperor's palace they very rarely use any other candles, than such as are made of this wax, because it never emits any smoke. The learned therefore use them only, when they compose an exercise upon their examination for degrees: for then they are confined in very small rooms, where the smoke of tallow-candles would incommod them greatly. I believe the chief consumption of this wax is owing to

* *Typha palustris major* of Caspar Bauhin. Cat's-tail.

§ In order to explain this passage, I take the liberty of making the following remark. The Lacca-tree is the *Fujuba Indica* of the great Ray; which produces this gum. The letter-writer is misled by what Garcias ab Horto says about it, that certain large-wing'd ants make this gum out of the juice suck'd from this tree, and deposit it upon the *furculi*, &c. of the same: but the celebrated Ray and J. Bauhin say, it is exudated, and by the heat of the sun concreted into the form, in which it is found upon the parts of this tree. There are other trees, which produce this gum, as well as this, mention'd by Hermannus.

to their coating tallow-candles with it, which I shall mention by-and-by. This wax is procured by boiling the matter rasped off the branches of the tree, the leaves of which are the proper nourishment of these insects, in a large vessel of water ; the wax swims at the top, and, when cold, it is taken off in a cake.

The berries of the tallow-tree are of great use in the southern provinces, where there are very few sheep. Almost all the candles, sold there, are made of the oil drawn from these berries. They procure this oil in the same manner, that I have mention'd concerning the wax ; and as this oil is not of so good a consistence as tallow, for its cohesion, when candles are made of it, they dip them in the white wax mention'd : the external coat, thus made, prevents them from guttering *. At Peking the same thing is done with tallow-candles ; nor do I ever remember to have seen them run down. I imagine, that our bees wax would answer the same purposes with this white wax of China.

The seeds of the Yen tchi come from a plant, which I think very particular ; at least I cannot recollect any thing like it. From these seeds or berries, when very ripe, a tincture of a fine red is drawn, as may be seen in the flakes of cotton charged with this colour, sold here. They moisten them with a little warm water, and then express the colour, which is afterwards evaporated to a driness, and serves for water-colours.

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* This is applicable to the green wax of Mississippi.

The *Perficaria*, of which they make indigo in and about Peking, merits attention. Indigo is also made of the *Perficaria maculata*, with which the banks of rivers and streams often abound ; but it is of an inferior quality to that made with the other *Perficaria*, the seeds of which I sent you ; and this even is not of equal value with that made of the anil, such as is made in the southern provinces here, and in those of America.

The stones of apricots come from a species of tree, whose fruit is not eatable. These trees are only cultivated for these stones, from which an excellent oil is produced for burning ; and which, instead of olive-oil, we use for our fallads.

The *Hoai tze* are the clusters of the flower of a bastard Acacia, from whence a most beautiful yellow tincture is drawn, by boiling them with a little alum. The *hoang tchi tze* produces yet a finer tincture : but the finest yellow colour of China comes from the *hoang pe pi* ; and these three are prepared in the same manner.

A kind of stuff is made from the cods of the wild silk-worm, called *kien tcbeou*, excellent for wear, when made for gain, but chiefly that, which is made from such cods, as I sent you in 1749. It is scarce, and dear. There is another kind of *kien tcbeou*, of which they sell a large quantity at Canton : it is made of the silk drawn from other cods, some of which I send you this year. These cods are capable of being wound on wheels or spindles. The first I sent are only wound on spindles ; but first they must be boiled in a strong lye, made of the ashes of the stalks of the Sarazin corn, till they are capable of

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being pull'd asunder with one's fingers, in order to turn them inside-out, and take out the fragments of the chrysalis ; and as this kind of stuff is work'd like other cloth, the weavers do the rest.

The fruits of the *tong yeou*, and of the tallow-tree, which you should have received last year, were fresher than those I sent before.

This year you will receive the cords of silk, which makes the silk called *kien tcbeou*, with the butterflies, which come from them. The other things, which I sent, want no explanation.

*An Answer to the Questions upon the Natural History
of Fossils.*

THE empire of China abounds in mines of all sorts, as gold, silver, copper, tin, lead, iron, &c. The provinces, which produce the greatest quantity, are *Yun nan*, and *See tchouen*. The two greatest rivers of China, *Kiang*, and *Hoang bo*, send down quantities of gold sand. The former takes its source in the province of *See tchouen*, and the latter from *Coconor*: but they find mines of gold and silver in the provinces of *Yun nan*, *See tchouen*, *Chen si*, *Chan tong*, *Hou kouang*, *Fou kien*, *Kouei tcheou*, *Petche si*; but, for political reasons, they work but few of them. I believe the principal is, lest the greediness of gain should excite popular insurrections. They open them sometimes in one place, sometimes in another: but, upon the least appearance of a rising, they immediately shut them up again. We cannot give any account of what is desired, concerning the manner of working the several mines. We are not

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in a way of informing ourselves. I have endeavour'd for several years to procure specimens of the different mines, but could not yet obtain them. If, hereafter, I can discover any thing worth while in this matter, I shall not fail to communicate it. As to what regards petrifactions, I have only seen a few crabs, pieces of wood, and some bones, which I take to be those of buffaloes. I have sent into France specimens of all the simple drugs sold by the druggists at Peking; among which are some bits of minerals, petrified bones, &c. to which I expect an answer next year, and shall be better able to chuse what to send of such things, as shall be desired. This collection is one of the affairs, that cost me most trouble.

The article, that regards the deluge, makes me imagine, that the list of these things comes from the celebrated Sir Hans Sloane. I should be glad to have an opportunity of doing him pleasure, and I would do it most readily. All I know of it is this; the Chinese have but a very confused idea of an universal deluge. They only conclude from things seen upon the surface of the earth, that there must formerly have been some terrible hurricane, and that the sea had cover'd the face of the earth. A great mandarin, who had a better understanding than the Chinese commonly have, being sent into *Ho nan*, to visit several places, observed, upon the top of a very high mountain, a kind of basin, the circumference of which, formed by the mountain, was filled with different figures of fishes, shells, and marine plants, impressed upon stones: He said to another mandarin, who accompanied him, "Certainly the sea must have been here: these fishes, shells, and, plants are

" found only in the sea." F. Gaubil says, the Chinese books pretend, that such impressions are found upon the highest mountains of *Tibet*, and *See tchouen*. I had an opportunity myself to go into the mountains about Peking, and even went up to the highest, but saw nothing of this kind ; and was informed upon the spot, that they never found any thing like them.

The greatest part of the cinabar of China comes from the province of *Yun nan* : and it is said, there is some also in *Kiang si*, *Hou kouang*, and *Koui tcheou*. *Kang bi*, the great-grandfather of the present emperor, ordered a general search to be made thro' the whole empire for antimony, but found none in any of the mines.

I have the honour to be, with much respect and esteem,

S I R,

Peking, Nov. 15, Your most humble and
1751.

obedient servant,

D'Icarville.